REMARKS/ARGUMENTS

The Examiner issued an Advisory Action dated October 25, 2002, indicating that the Amendment submitted October 8, 2002 was not being entered as raising new issues that would require further consideration and/or search and that the Amendment to the claims was not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal. The RCE that this Preliminary Amendment accompanies requests entry of the prior Amendment.

The Examiner indicates several reasons for non-entry of the Amendment:

(a) The Amendment does not overcome the rejection under 35 USC 103. It is submitted that this is not a valid reason for non-entry of the Amendment. In any event, the prior art issues are addressed below.

(b) New claim 49 (incorrectly numbered by applicant as new claim 43) would require a rejection because it does not further limit claim 30.

(c) Claim 15 would be rejected under 35 USC 112, first and second paragraphs for lacking an essential step.

(d) Rejection of claims 1 to 2, 5 to 7, 15 to 16, 19 to 20, 30 to 34 under 35 USC 103(a)

This rejection was inadvertently not addressed in the Amendment forwarded October 8, 2002. The Examiner rejected claims 1 to 2, 5 to 7, 15 to 16, 19 to 20 and 30 to 34 under 35 USC 103(a) as being unpatentable over Olmsted et al and Simard et al in view of Johnson et al, Wagener et al, Norman et al and Haddad et al.

The Olmsted et al reference describes the provision of recombinant vaccinia viruses which encode full length or truncated versions of the human RSV G protein. These recombinants were utilized in the intranasal immunization of rats.

Olmsted also describes the sequencing of the RSV G protein from three strains of RSV. The constructs provided and utilized in Olmsted et al are vaccinia virus recombinants. These are not plasmid vectors and nor is there specified a promoter in a plasmid vector operable to direct expression of RSV G protein *in vivo*.

Simard et al also describes recombinant vaccinia viruses, this time containing a specific fragment encoding amino acid 124 to 203 of the RSV G protein. Again a plasmid vector and the promoter described by applicant are not described. In addition, the RSV G fragment described in Simard does not correspond to any of the sequences identified by SEQ ID in claim 1. As the Examiner notes, Simard et al point out on page 313, the vaccinia virus is not expected to become a suitable vector for the development of human vaccine in the future.

In support of the patentability of the claims of this application, submitted herewith, along with a PTO-1449 listing the same, is a copy of the scientific paper of Li et al which corresponds to the data presented in the application. With respect to the paper, the plasmid pXL5 referred to in the specification has been renamed p34M7A and the plasmid pXL6 has been renamed p41M2 in the paper.

Applicants claims are all directed to the use of a plasmid vector which contains the nucleotide sequence encoding RSV G protein or a RSV G protein fragment that generates antibodies that specifically react with RSV G protein. As set forth in the specification, for example, on page 8, lines 9 to 10 and page 30, lines 26 to 35, the administration of the plasmid to a host produces a balanced Th1/Th2 cytokine profile.

The scientific paper by Li et al describes the problems in the art of an unbalanced cytokine response (page 54, right hand column) as well as problems with using vaccinia (page 55, 2nd paragraph, left hand column). From this prior work, a person skilled in the art would draw the conclusion that the RSV G proteins had an inherent bias towards Th2 cytokine production and there would be no expectation that a different result would be obtained using a DNA plasmid vector from that

obtained using a vaccinia virus vector. At the time of this invention it was not known that in vivo expression of the G protein of RSV in a DNA vector would result a shifting of the immune response to a more balanced one regardless of the route of administration, in contrast to the vaccinia work (see page 59, first paragraph of Discussion). This result, it is submitted, is an unexpected result.

It is clear, therefore, that there is a prejudice in the art against using RSV G glycoprotein in any form, in that a Th2 cytokine response has to be expected, a response associated with the highly undesirable immunopotentiation. In the face of this prejudice in the art, applicants took a plasmid DNA vector approach to DNA immunization of RSV G protein and to their surprise, found that, not only did this approach result in protection in the mouse model, but no immunopotentiation was observed in cotton rats and a balanced Th1/Th2 cytokine profile was obtained.

It is submitted that there is nothing in the secondary references which have been cited which even suggests that this result may be obtained by replacing the vaccinia virus vector with a plasmid vector, as in the present invention.

Johnson et al is said to supplement both Olmsted and Simard by providing the amino acid sequence of the G protein derived form the Long strain of RSV which is 99.1% identical to SEQ ID No: 2. As the Examiner notes, Olmsted and Simard differ from the instant invention in that they use vaccinia virus.

The Wagener et al reference is concerned with induction of antibodies against SIV and, therefore, is wholly irrelevant to RSV. Norman et al apparently is cited for limiting a plasmid vector for gene expression including a CMV promoter and enhancer and the CMV IE intron A. Haddad et al is cited for the limiting of the tPA signal sequences.

None of these references contain any teaching which would overcome the inherent prejudice in the art against using RSV G glycoprotein in any form, as set forth above. Accordingly, it is submitted that the pending claims are patentable over the prior art, and hence the rejection of claims 1 to 2, 5 to 8, 15 to 16, 19 to 20 and

30 to 34 under 35 USC 103(a) as being unpatentable over the applied art, should be withdrawn.

B. Claim 49

Claim 49 is dependent on claim 30 defines a method of using a gene to form an immunogenic composition. Claim 49 extends that use further by reciting that the immunogenic composition produced in step (c) of claim 30 is administered to a mammal to stimulate an immune response in the mammal. The language of claim 49 has been corrected to use "mammal" rather than "animal". It is submitted that claim 49 is properly dependent on claim 30. In the event the Examiner maintains concerns with respect to claim 49, applicants offer to amend claim 49 to be independent form.

C Claim 15

Claim 15 is amended herein to recite that the method of claim 15 comprises administering the immunogenic composition to the mammal. It is submitted that claim 15 can no longer be considered open to rejection under 35 USC 112, first or second paragraph.

This Preliminary Amendment is submitted with the RCE in the interests of expedited prosecution. It is submitted that all claims now are in an allowable form.

It is believed that this application is now in condition for allowance and early and favourable consideration and allowance are respectfully solicited.

Respectfully submitted,

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